<center>**REMARKS**</center>

Claims 15-24 were presented for examination. Claims 15-24 were rejected in the Office Action dated December 23, 2008.

Claims 16, 17 and 19-24 are hereby amended merely to more specifically recite inherent aspects of the invention as originally claimed. Claim 15 is hereby canceled with prejudice or disclaimer.

Reconsideration of this application, and allowance of all pending claims 16-24 are hereby respectfully requested.

<u>Summary of Substance of Interview</u>

Applicants' representative, Dohyun Ahn (Reg. No. 63,237), conducted a telephone interview with Examiner Andrey Belousov and Examiner Steve Sax on April 14, 2009. Claims 15 and 16, and cited references of U.S. Patent No. 5,022,085 ("Cok"), U.S. Patent No. 5,995,108 ("Isobe") and U.S. Patent No. 6,064,399 ("Teo") were discussed during the interview.

An agreement was reached that the rejection under 35 U.S.C. § 103 would be overcome if the claims were amended to recite that the "interior" did not include edges of the selected single view image.

<u>Supplemental Information Disclosure Statement</u>

A supplemental information disclosure statement including additional references was filed on May 15, 2009. The Examiner is respectfully requested to indicate consideration of the additional references in the next communication to the Applicants.

Rejection under 35 U.S.C. § 103(a)

Claims 15 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,022,085 ("Cok") in view of U.S. Patent No. 5,995,108 ("Isobe"). The rejection of claim 24 is overcome in view of amendments. Claim 15 is canceled herein, and therefore, the rejection of claim 15 is now moot.

Independent claim 24, as amended, specifically recites:

... changing the opacity values of the pixels in the overlapping portions responsive to receiving first user inputs representing changing of a size of an outlined area in the second display area;

superimposing an array of two or more control points within an area in the panoramic image corresponding to an interior of a selected single view image, the interior of the selected single view image excluding four corners of the selected single view image;

warping parts of the panoramic image corresponding to the selected single view image responsive to receiving second user inputs for moving the control points. . . . (Emphasis added).

In the method of claim 24, the opacity values of pixels in the overlapping portions are changed after receiving first user inputs. The first user inputs represent change in the size of an outlined area in the second display area. An array of two or more control points are superimposed within an area in the panoramic area corresponding to the interior of a selected single view image. The interior of the selected single view image excludes the four corners of the selected single view image. The parts of the panoramic image corresponding to the single view image are warped after receiving second user inputs for moving the control points.

In panoramic images, objects visible in two or more neighboring single view images may not align properly. The feature of "superimposing an array of two or more control points within an area in the panoramic image corresponding to an interior of a selected single

view image, the interior of the selected single view image excluding four corners of the selected single view image," as recited in claim 24, as amended, is advantageous because this feature allows correction of such misalignment by moving one or more control points superimposed on the interior of the selected single view image. By using an array of two or more control points within the single view image, the misalignment of objects in different locations of the panoramic images may be aligned properly. That is, different parts of the panoramic images may be warped differently so that different objects in the panoramic images are aligned properly. By aligning the objects, the panoramic images appear more natural and consistent.

Claim 24, as amended, is not obvious over the combination of Cok and Isobe for at least the following reasons: (i) Cok and Isobe fail to disclose the feature of "superimposing an array of two or more control points within an area in the panoramic image corresponding to an interior of a selected single view image, the interior of the selected single view image excluding four corners of the selected single view image," as recited in claim 24, as amended, and (ii) Cok is not compatible Isobe.

First, the feature of "superimposing an array of two or more control points within an area in the panoramic image corresponding to an interior of a selected single view image, the interior of the selected single view image excluding four corners of the selected single view image" recited in claim 24, as amended, is not disclosed in Cok or Isobe. Cok is directed to merging arbitrarily shaped images using a window to effect gradual blending of images. See Cok, col. 1, ll. 34-55. A pixel in the original image is modified based on a distance from a base image to effect a tapering blending. See Cok, col. 3, ll. 29-49. In Cok, an image is generated based on the prescribed distance from the base image, and therefore, no control

point is superimposed to warp parts of the panoramic image. Nor does Isobe disclose this feature. Isobe at best discloses generating a composition image from multiple single view images by adjusting the opacity of each single view image. See Isobe, col. 11, line 30 – col. 12, line 6. Nowhere in Isobe does it disclose using any control points for warping parts of the composed image.

Second, Cok is not compatible with Isobe. Isobe is related to generating *a three-dimensional image* by completely overlapping two or more two-dimensional images each representing characteristics of the body at different surface depths. In contrast, Cok is related to generating *two-dimensional* panoramic images by joining arbitrary shaped two-dimensional images. The resulting image of Isobe is different from the resulting image of Cok, and thus, the principle of operation in Isobe must be modified for combination with Cok.

For at least the above reasons, claim 24, as amended, is patentable over the combination of Cok and Isobe.

Claims 16-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of U.S. Patent No. 6,064,399 ("Teo"), Isobe and U.S. Patent No. 4,470,779 ("Cleary"). These rejections are overcome in view of the amendments.

Claim 16, as amended, is not obvious over the combination of Teo, Isobe and Cleary for at least the following reasons: (i) none of the cited references disclose the feature of "an array of two or more control points superimposed within an area in the panoramic image corresponding to an interior of a selected single view image for manually warping parts of the panoramic image corresponding to the selected single view image by moving the control points, the interior of the selected single view image excluding four corners of the selected

single view image," as recited in claim 16, as amended, and (ii) Isobe is not compatible with Teo or Cleary.

First, the feature of "an array of two or more control points superimposed within an area in the panoramic image corresponding to an interior of a selected single view image for manually warping parts of the panoramic image corresponding to the selected single view image by moving the control points, the interior of the selected single view image excluding four corners of the selected single view image" is not disclosed in any of the cited references taken alone or in combination. At best, Teo discloses dragging points 410 at four corners of quadrilateral 420. See Teo, col. 8, ll. The dragging points 410 in Teo are neither arranged in an array nor are they placed within the interior of the quadrilateral 420. The only point within the interior of the quadrilateral 420 is center point 430. The center point 430 is used for moving the entire quadrilateral 420 and not for warping parts of the panoramic image. Therefore, in Teo, there is no control point within the *interior* of the single view image excluding the four corners of the single view image to warp parts of the panoramic image. Nowhere in Teo does it disclose that an array of two or more control points is superimposed within an area in the panoramic image corresponding to an interior of the selected single view image.

Nor does Isobe disclose this feature. As set forth above, Isobe at best merely discloses generating a composition image from multiple single view images by adjusting the opacity of each single view images. See Isobe, col. 11, line 30 – col. 12, line 6. Nowhere in Isobe does it disclose using any control points for warping parts of the composed image.

Cleary also fails to disclose this feature. Cleary was cited in the Office Action merely for disclosing an artificial horizon. Nowhere in Cleary does it disclose using any control

points to warp any parts of the panoramic image.

Second, Isobe is not compatible with Teo or Cleary. As set forth above with respect to claim 24, Isobe is related to generating a ***three-dimensional image*** by completely overlapping two or more two-dimensional images each representing characteristics of the body at different surface depths. In contrast, Teo and Cleary is related to ***generating two-dimensional*** panoramic images generated by joining two-dimensional images horizontally or vertically. The manner of combining images in Isobe is different from Teo and Cleary, and therefore, the principle of operation in Isobe must be modified for combination with Teo and Cleary. Therefore, Isobe cannot be combined with Teo or Cleary.

Accordingly, claim 16 and its dependent claims 17-23 are patentable over the combination of Teo, Isobe and Cleary for at least the above reasons.

<u>Closing</u>

Applicants believe that the application is in condition for allowance of all claims herein, claims 16-24, and therefore an early Notice of Allowance is respectfully requested. If the Examiner believes that for any reason direct contact with Applicants' attorney would help advance the prosecution of this case to finality, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

Date: __May 19, 2009_____ By: _____/Dohyun Ahn/_____

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